



# MATHS LEARNING JOURNEY

**YEAR 13**



Revision and mock review  
**Mechanics:** Model for friction. Projectiles. Moments and Forces  
**Statistics:** Statistical distributions.. Statistical hypothesis testing

**Pure:** Numerical Methods. Further differentiation. Integration. Differential equations.

**Pure:** Review Trigonometry, sequences and series and differentiation. Functions. Trigonometric functions. Parametric equations. Proof. Further Algebra

**Mechanics:** Vectors. Kinematics 2D and 3D. Forces and Motion  
**Statistics:** Probability including conditional  
**Pure:** Trigonometric Identities

SENIOR MATHS CHALLENGE

SENIOR MATHS CHALLENGE

**YEAR 12**

**EXAM**

**Pure:** Problem solving. Surds and indices. Quadratic functions. Equations and inequalities  
**Mechanics:** Vectors. Kinematics 1D. Forces and Newton's laws of motion

**Statistics:** Data collection. Data processing, presentation and interpretation.  
**Pure:** Coordinate geometry  
**Trigonometry**

**Pure:** Introduction to calculus  
**Mechanics:** Variable acceleration.  
**Statistics:** Probability. Binomial distribution  
**Pure:** Polynomials.

Binomial Expansion. Graphs and Transformations. Differentiation. Exponentials and Logarithms. Integration  
**Statistics:** Statistical hypothesis testing and using the binomial distribution

Revision and mock review  
**Pure:** Trigonometry. Sequences and series. Differentiation

REVISION

**YEAR 11**



**Data Handling:** Possibility Spaces, Tree Diagrams  
**Number:** Inverse Proportion, Growth and Decay  
 Conditional Probability.

**Shape:** Trigonometry 2, Vectors  
**Data Handling:** Sets

**Algebra:** Properties of Quadratic Functions, Real Life Graphs  
**Shape:** Trigonometry 1

**Algebra and Number:** Quadratic and Simultaneous Equations, Distance Time Graphs, Calculating with Roots and Indices  
**Number:** Approximate Solutions

**YEAR 10**

**Data Handling and Algebra:** Probability Experiments, Mutually Exclusive Events, Substitution into Formula, Using Standard Formula

**Shape:** Circles 1, Constructions, Loci, Estimation and Approximation  
**Number:** Measures and accuracy

**Number:** Frequency Diagrams, Averages and Spread 2, Scatter Graphs and Correlation  
**Data Handling:** Time Series  
**Shape:** Pythagoras

**Algebra:** Sequences Rules, Finding nth Term, Special Sequences  
**Shape:** Congruence and Similarity  
 Equations, Identities and Functions

**Shape:** Drawing Straight Lines, 3D Shapes, Volume and Surface Area  
**Shape:** Volume and Surface Area, Number, Compound Units, Algebra, Quadratic and Simultaneous Equations

INTERMEDIATE MATHS CHALLENGE

INTERMEDIATE MATHS CHALLENGE

**YEAR 9**



**Number:** Decimals and Fractions, Fractions and Percentages  
 Fractions, Decimals and Percentages

**Shape:** Transformations 1, Transformations 2  
**Number:** Decimals and Fractions

**Algebra:** Terms and Expressions. Simplifying, Indices  
 Measuring Lengths and Angles  
**Shape:** Area of 2D Shape

**Data Handling:** Representing Data 1 and 2, Averages and Spread  
**Number:** Factors and Multiples, Prime Factor, Decomposition, Powers and Roots

**Number:** Ratio, Percentage Change  
**Algebra:** Solving Linear Equations 1, Solving Linear Equations 1 and 2  
**Data Handling:** Organising data

**Number and Shape:** Place Value Rounding, Multiplying and Dividing, Angles and Lines, Triangles and Quadrilaterals, Polygon Angles, Proportion

JUNIOR MATHS CHALLENGE

**YEAR 8**

**Number:** Numbers and the number system. Highest common factor, lowest common multiples and prime factor decomposition.

**Shape:** Visualising and constructing. Properties of 3D and shape  
**Number:** Exploring fractions, decimals and percentages.

**Algebra:** Algebraic Proficiency. Substitution including formulas. Proportional reasoning. Enlargement of shapes Finding nth term. Identifying quadratic sequences.  
**Shape:** Measuring space. Converting square units.

**Shape:** Investigating angles. Angles in triangles, quadrilaterals and polygons.  
**Number:** Calculating fractions, decimals and percentages. Add and subtraction fractions, finding percentages of amounts.

**Algebra:** Solving equations and inequalities.  
**Shape:** Calculating space. Area of more complex 2D shapes. Volume of simple 3D shapes.  
**Number:** Checking, Rounding to decimal

**Shape:** Mathematical movement. Translations using vector notation, reflections in diagonal mirror lines.  
**Handling Data:** Presentation of data. Pie Charts



FUN MATHS ROADSHOW

SHELDON MATHS MORNING

JUNIOR MATHS CHALLENGE

WINCANTON RACE COURSE TRIP



**YEAR 7**

**Number:** Estimating and rounding to powers of 10.  
**Shape:** Mathematical movement. Reflections  
**Handling Data:** Presentation of data. Bar charts and line graphs.

**Number:** Calculating fractions, decimals and percentages. Add and subtraction fractions with a common denominator.  
**Shape:** Calculating space. Finding area of simple 2D shapes.

**Algebra:** Pattern sniffing. Continuing sequences, identifying term to term rules.  
**Shape:** Measuring space. Converting between units, metric and rough metric to imperial conversions.

**Number:** Exploring time. Exploring fractions, decimals and percentages. Comparing fractions, writing simple decimals as fractions.

**Number:** Multiplication and division.  
**Shape:** Investigating properties of shape. Investigating rectangles. Visualising and constructing. Identifying 3D shapes and nets.

**Number:** Numbers and the number system. Identifying factors, multiples and prime numbers. Counting and comparing. Calculating- addition and subtraction.